TJNAF Proposal

Correlated spectral function and (e,e'p) reaction mechanism

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TJNAF

June 24, 1997

Abstract

We propose an (e,e'p) experiment to measure the strength of the spectral function $S(k, E)$ at large values of k and E resulting from short-range nucleon-nucleon correlations. A study of previous (e,e'p) experiments shows that much of the available data is dominated by two-step processes. We identify the kinematics that could give access to the strength at large k, E without unacceptably large corrections due to multistep-processes, and propose a corresponding experiment. This experiment at the same time is designed to also provide data in the region where multi-step processes are expected to dominate, such as to allow a check of the theoretical calculations we are performing.